Northwest of Koch is a single tank and a vacant metal building. Adjacent and to the west of this building, along the railroad tracks, are globules of solidified asphalt, dark stained soils, and railroad tie debris. The entire area along the railroad cut

extending to the southern boundary of the Koch site appears to have similar characteristics.

Discussion with BNR personnel indicated the Railroad had additional concerns at this facility and plans to pursue these with the leasee as funding becomes available.

COMMENTS & CONCLUSIONS:

This large site (see Figure 4-43) has been affected by all of the previous tenants. There is confirmed petroleum contaminated (above MTCA cleanup) soil to 39 meters (128 feet) bgs in identified areas. The proposed alignment will require the removal of seven or eight of the approximately twenty-five above ground tanks. There was no assessment information found on the western portion of the property (see Appendices D pg.D-8). From what is visible, there is a large quantity of surface contamination. It is assumed that the extent of the visible surface asphalt contamination is widespread.

Contamination cleanup costs are estimated as follows:

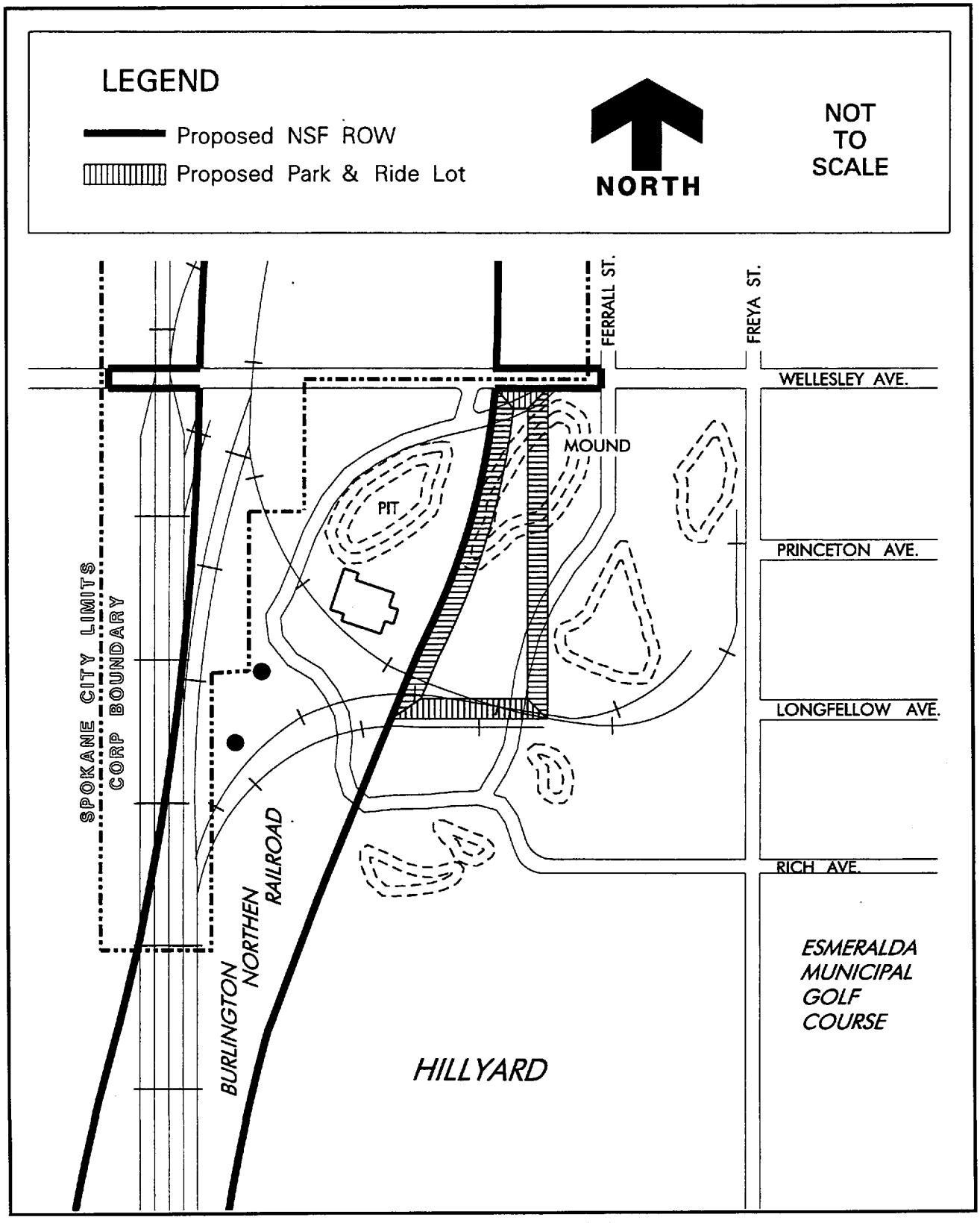
Engineering estimates concluded 107,000 m3 (140,000 yd3) of material will need to be excavated from this site due to the 30 foot depressed roadway section through this area. Assuming all of the soil is contaminated the disposal costs are figured at $110.00 per m3 ($83.00 per yd3) equaling $11,770,000 as the estimated cleanup cost for this site.

412 East Wellesley - Aluminum Recycling Corporation

Aluminum Recycling is a closed secondary aluminum smelter, where aluminum was reclaimed/recycled from scrap metal, beverage cans, aluminum oxides, and aluminum furnace skimmings (dross). The facility has been inactive since the mid 1980s. Waste piles of black dross (sodium and potassium salts, as well as the possibility of recoverable aluminum) are present on site, both above grade and in pits (see Figure 4-44). There is several thousand cubic meters (yards) present at this location. Suspected hazardous substances associated with the site include sodium salts, potassium salts, aluminum, copper, ammonium nitrides, potassium aluminum fluoride and ammonia.

There have been complaints of fugitive dust and ammonia releases from the site. In addition, a BNR well several hundred meters (yards) north of the site was reportedly contaminated by salt (sodium chloride) in 1955 (on route, see BNR Hillyard Yard Property Sequence No. 991, Site No. 47). Although the dross pile is not classified by the EPA as a toxic waste, it is deemed a solid waste and nuisance by the city of Spokane and a dangerous waste by WDOE. The site is owned by BNR which had leased the site to Aluminum Recycling Corporation.

The WDOE C&SCS list indicates the site has confirmed soil contamination. The Affected Media Report stated “the site has confirmed soil and potential ground water, drinking water, and air contamination.” The C&SCS report further indicates the site is effected by metals (non-priority) and conventional and inorganic



Market/Greene Alternative (Preferred Alternative) Limited Initial Site Assessment, Aluminum Recycling Corporation
Figure 4-44

chloride, pH, and alkalinity) contaminants. A Site Hazard Assessment was performed on the site in 1991, resulting in a WARM Bin ranking of 2.

The CERCLIS list indicates the site has been assigned EPA/State ID No. WAD043005651. Event types are recorded as Discovery by EPA in December 1979, Preliminary Assessment by the state completed 3 July 1986, and Screening Site Inspection by EPA completed 13 September 1988.

A Phase I Site Inspection Report was performed by Washington State in December, 1987. The Phase I indicated the waste could possibly be shipped to the Mica Landfill. The Mica Landfill is now closed; however, the Graham road facility may be another possibility. In mid-September 1983, a 96-hour Fish Bioassay was performed on samples taken from the site. None of the fish died.

DNR geologic personnel were interviewed for additional disposal options and indicated that agronomic land application may be another possibility.

Additional notes in the site WDOE Hazardous Waste and Toxics Reduction File indicate the site was stabilized with Monolac , which is similar to Elmer's glue, in 1989 as a response to the fugitive dust emissions. Minor amounts of ammonia gas are released when 'fresh' dross is exposed to water; thus, special provisions will need to be taken when the dross is moved or disposed.

Update: 8/96

A conversation with Mike Boatsman, WDOE Site Manager, regarding a material characterization report issued June 1996, reflected the dross that had been sampled for a bioassay fish and rat test which proved negative for mortality. The conversation also led to the statement that WDOE was going to be negotiating a cleanup plan with the liable parties for this site sometime within the next two years.

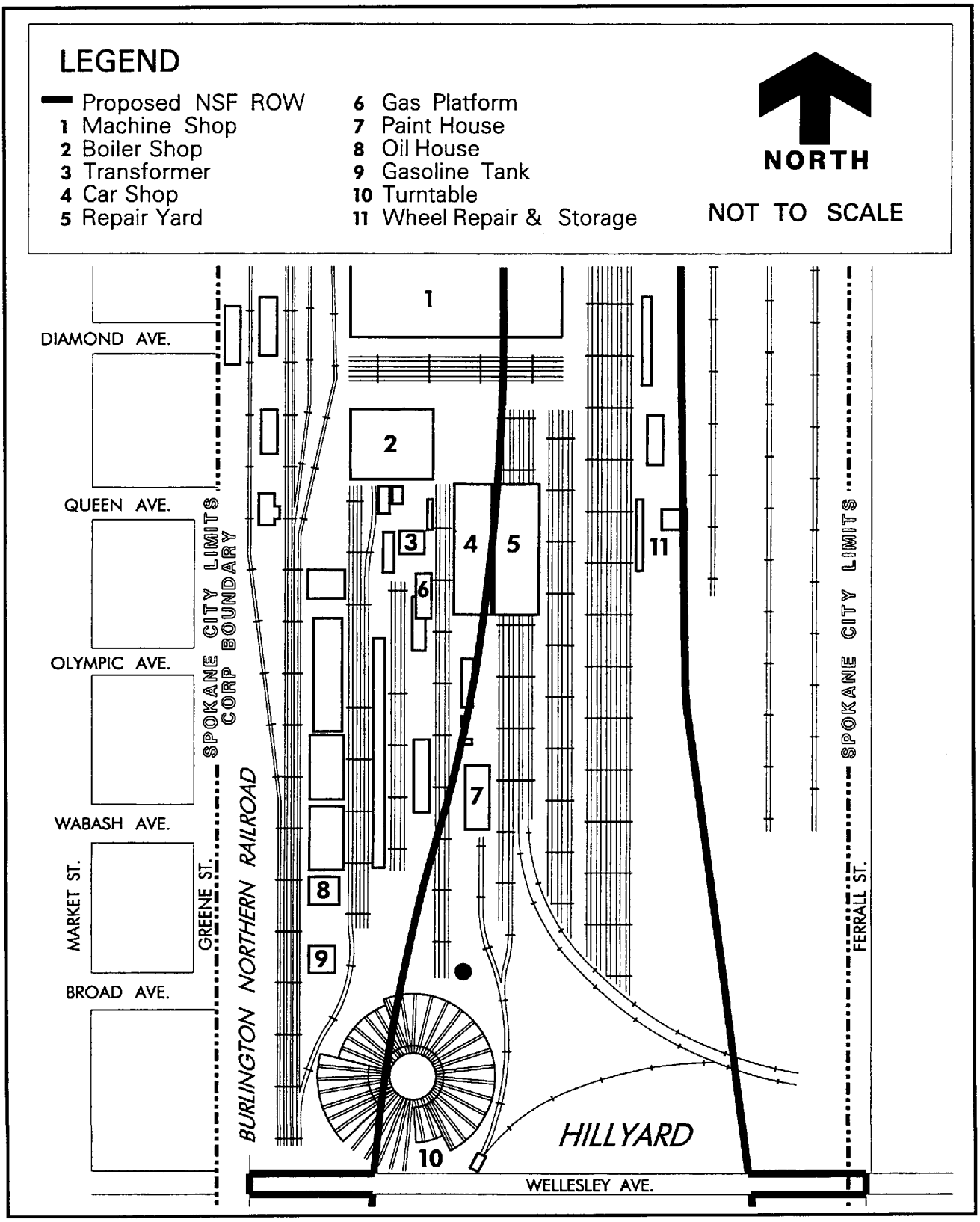
COMMENTS & CONCLUSIONS:

As shown in Appendices D, page D-8, construction on this site will also involve a "park and ride" site. Discussions with WDOE led to the belief that, should it be agreed to by all concerned parties, the paving of this site, in conjunction with stormwater controls, could serve as an 'Institutional Control' for the contamination problem. This would allow the contamination to be left in place. Should this option work as the control, the main concern would be fugitive dust during the movement of the dross. If this control does not work, another possible solution would involve determining if agronomic land application would be appropriate as suggested by WA. Dept. of Natural Resources. Disposal into an authorized landfill would be the final option (See Figure 4-44).

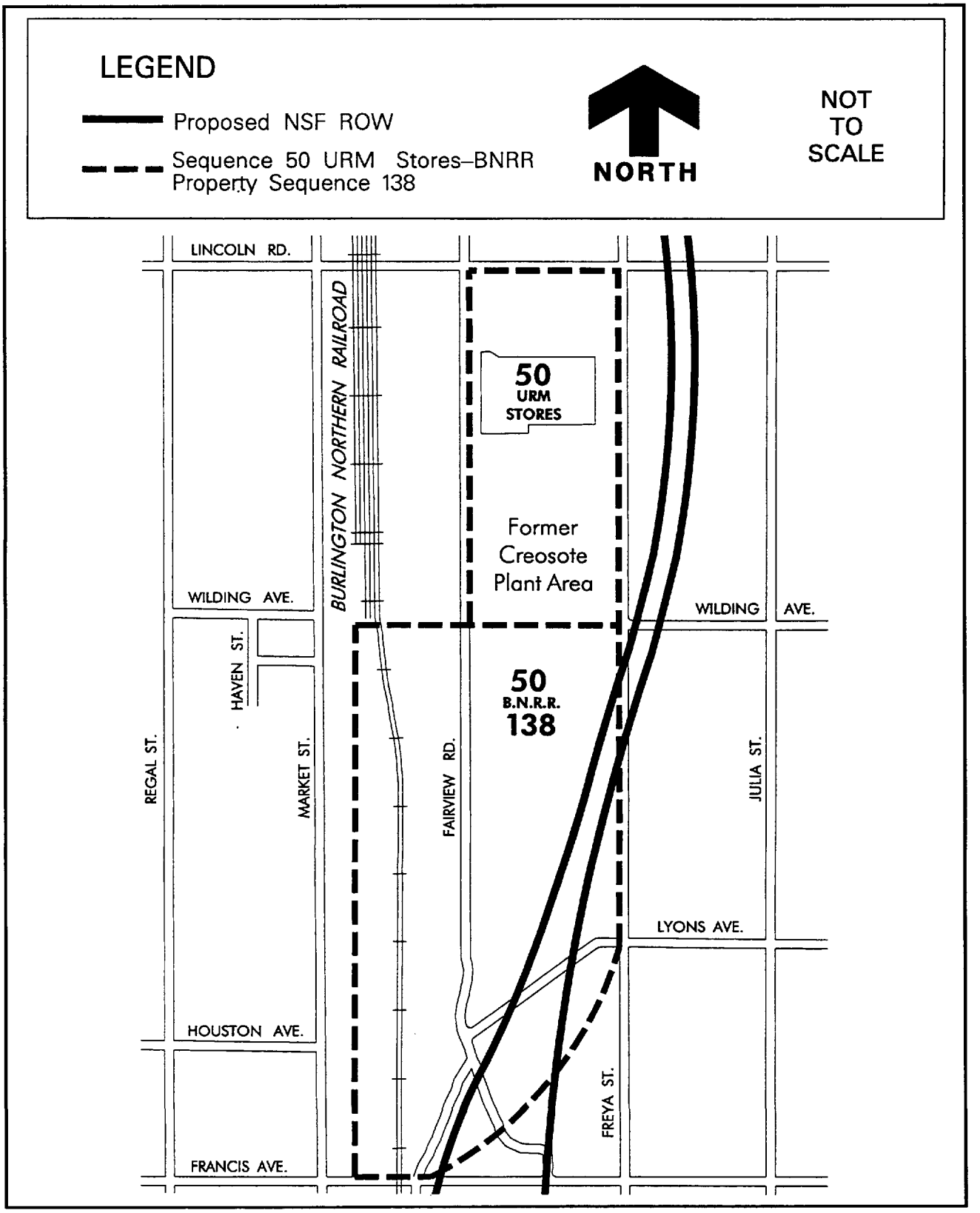
Contamination cleanup cost estimates are figured as follows:

Engineering estimates are 52,000 m3 (68,000 yd3) of affected material on this site. Using $89.00 per m3 ($68.00 per yd3), the estimated disposal cost total is $4,700,000. Fugitive dust control during this cleanup will also be required, which adds another estimated $15,000. The estimated cleanup costs for this site total $4,715,000. This cost assumes that the material must be disposed of in an approves site. WSDOT is hopeful that one of the less costly options will prevail.

Sec 34 T26 R43 - Burlington Northern Yard (Property Sequence No. 991)



Market/Greene Alternative (Preferred Alternative) Limited Initial Site Assessment, BNRR- Hillyard Property Sequence No. 991 (Former RR Yard)
Figure 4-45



Market/Greene Alternative (Preferred Alternative) Limited Initial Site Assessment, URM Stores and BNRR Property Sequence No. 138
Figure 4-46

The Burlington Northern Railroad-Hillyard Yard and Repair Facility

The Burlington Northern Hillyard properties are listed under several site names and addresses.

1. Burlington Northern Hillyard Railyard and Maintenance Facility.
2. Glacier Park Company, Property Sequence No. 991 (see Figure 4-45)
3. Glacier Park Company, Property Sequence No. 138 (see Figure 4-46)
4. Burlington Northern Railroad. East 3205 Queen Avenue.
5. Great Northern Railway-Great Northern Depot Vicinity.
6. Block Queen Avenue, East of Market Street.

Section 34 Township 26N Range 43E Burlington Northern Hillyard Yard.

To facilitate description of the sites, they will be treated in two sections; Property Sequence No. 991 and Property Sequence No. 138. Property Sequence No. 138 will be treated under Site No. 50 URM. Property Sequence No. 991, the BNR property, is loosely defined as beginning at the intersection of Wellesley Avenue and the present day Burlington Northern railroad tracks, east to Ferrall Street, north to Francis Avenue, west to the current BNR/GNRR lines and south to Wellesley Avenue in Section 34, Township 26 North, Range 43 East (W.M.).

The Burlington Northern Yard was approximately a 4.8 km (3 miles) long expanse operated as a rail car building and maintenance facility, the largest in the western United States. Functions at the Hillyard Yard included; locomotive building and repair, sandblasting, painting, a machine shop, a boiler shop, and a gas platform. The entire area was serviced by a network of underground plumbing including oil lines to and from underground wood lined oil sumps and asbestos covered steam piping. Evidence of this plumbing network is still in place in many portions of the yard, as well as, some of the sumps with numerous broken asbestos covered pipes protruding from the ground.

The BNR Hillyard Property has been assigned EPA/State ID. No. WAD000812883. The RCRIS list indicated the BNR Hillyard Yard is a non-regulated generator of hazardous materials. The CERCLIS list indicates a primary assessment was performed on the property from June 28, 1985 to December 16, 1985, at which time a No Further Action letter was issued to the property.

The WDOE UST list does not indicate that the BNR Hillyard Yard had USTs on-site. The FUST list does indicate the Great Northern Railway and the Great Northern Depot Vicinity had two 113,650 liters (25,000 gallon) diesel tanks on site. The LUST list indicates the East 3200 Block of Queen Street, east of Market Street, was the site of an incident reported to the WDOE on June 28, 1990. Soil was recorded as the affected media and the current administrative status is "cleanup conducted".

The BNR Hillyard Yard (property sequence No. 991) is listed on the C&SCS Report as having soil affected by petroleum products. A pit lined with timbers was found to contain waste oil. The theory is that steam cleaning contaminates drained into this pit. Independent remedial action has been conducted and an Interim Remedial Action Report was received by WDOE. The Hazardous Sites List

indicates a Site Hazard Assessment was performed on the property resulting in a WARM Bin No. of 4 being assigned to the site.

Several wells were observed on the property, most of which appeared to have been vandalized. Another concern maybe the black water tower that is still standing, which is one of the few structures left on either property sequence.

There has been recent dirt movement on this property and there are also many areas void of vegetation. Soil surfaces in the area appear to be mixed with a purple substance. Illegal dumping has taken place within the property boundaries. Soils, presumably contaminated, appear to have been placed on cement concrete pads which run the length of the property to bioremediate. Additional soils in the area have been tilled for unknown reasons. Discussions with a consultant that worked on the property in the mid 1980s indicated that a hand dug well, 18.3 to 21.3 meters (60 to 70 feet) due north of the water tower, remains on site and is covered with timbers and partially filled.

COMMENTS & CONCLUSIONS:

As identified in the previous text and the following site map, this property sequence has numerous identified potential 'hot spots'. Although some of these hot spots have been remediated, there is very little record of most of the others. Several different site maps confirm the locations of these hot spots. Some of the westerly locations will not affect the proposed alignment and the southern turntable has been removed. Reviewing the history of the railroad functions that are shown on Figure 4-45 leads to the conclusion that those soils needing remedial action will require some type of a disposal option. These areas, other than the plumbing network, should be localized in their limits.

The cleanup estimate for this parcel was figured as follows:

The area for each portion of this site, noted on Figure 4-45, was measured and the contamination estimated to a depth of 9.14 meters (30 feet). Engineering estimates for this suspect contaminated soil totals 56,900 (74,400 yd3). Again using the figure of $110.00 ($83.00 yd3) for disposal, the soil total is $6,257,500. Adding another $100,000 for remediating the asbestos, brings the total cleanup estimate for this site to $6,357,500

The URM property is west and immediately adjacent to the proposed route. The property was formerly part of the BNR Property Sequence No. 138 and significant amounts of contamination have been discovered on site (see Figure 4-46). The URM property and Property Sequence No. 138 will be discussed simultaneously in this section.

The WDOE UST list indicates URM has ten operational USTs on site and two USTs were removed from the facility. URM has been assigned WDOE UST site No. 000163. A LUST incident was reported to the WDOE on October 10, 1992. Review of the sites LUST Incident file revealed that the contamination was minor and remediated. These USTs are outside of our Right of Way footprint and our project will not effect them.

The C&SCS Report indicates soil affected by phenoloic compounds were discovered during construction operations and independent remedial action is

underway. Contamination of groundwater at the site is suspected. A SHA has been performed on the facility resulting in a WARM Bin No. of 5.

The parcels which constitute the URM property and Property Sequence No. 138 were originally developed by Great Northern Railroad in the 1890's and served as a railyard until early in the 1980's. A wood products creosote- treatment facility leased the property from GNR until the mid-1960s. Common practice during that time period was to release used or old creosote to a sump dug in the surface soil. A WDOE aerial photograph signature, circa 1960, reveals two sumps filled with an unknown substance in the approximate location of the URM contamination.

In 1992 during an expansion project, URM encountered the covered sumps. URM and BNR are conducting an independent site cleanup. Chemical analysis has indicated the presence of petroleum hydrocarbons, metals, and semi-volatile organic compounds. Approximately 27,500 cubic meters (36,000 cubic yards) of soil were removed in October and November 1992. This soil was separated into contaminated (14,500 cubic meters (19,000 cubic yards)) and non contaminated stockpiles (13,000 (17,000 cubic yards)) based on field screening results. Due to the presence of PAH compounds, the contaminated soil stockpile was designated as a state-only dangerous waste.

Metals were detected by TCLP analyses at concentrations less than the dangerous waste designation levels listed in WAC 173-303-090 (8). In all of the soil samples submitted having concentrations exceeding the MTCA Method A cleanup level of 200 milligrams per kilogram (mg/kg), heavier oil-range hydrocarbons were detected. Concentrations of heavier oil-range hydrocarbons (nC24 to nC40) detected in the soil samples ranged from 1,500 to 4,4000 mg/kg. The soil stockpiled at the URM site is designated as a State of Washington toxic and carcinogenic dangerous waste based on the presence of PAHs in the soil samples (WAC 173-303-100(5). The soil does not exceed the current (WAC 173-303-100{6}) dangerous waste criteria.

BNR has evaluated options for, and assumed liability of, the soil removal off-site, as well as in situ treatment technologies. In situ thermal disorption is the preferred treatment plan. BNR has petitioned the WDOE to exempt the soil stockpiles from dangerous waste status. The exemption will allow for treatment of the soils to contaminant levels below Model Toxic Control Act's (WAC 173-304) requirements for action. BNR is also petitioning to exempt soils which may be generated during further cleanup phases, as long as they are essentially identical to the stockpiled soils. WDOE believes the proposed treatment is "most protective of the environment" and feasible for the volumes of soil stockpiled. Approval of the petition will help streamline further site cleanup activities as well. The WDOE is proposing to approve BNR's petition to exempt the soil stockpile from dangerous waste status so that the stockpile can be treated to render it non-dangerous.

COMMENTS & CONCLUSIONS:

The only confirmed contamination information on this property sequence addressed that portion identified as the new (1992) southern URM Warehouse Building. This area contains contaminated soil associated with a previous wood treatment (creosote) operation. Much of the contaminated soil from this operation has been removed and stockpiled on site, awaiting disposal. As indicated by the preceding

text and the following site map, the proposed alignment will avoid the site (see also Appendices D pg. D-10). The potential hazard is that the limits of the overall contamination were not defined. The potential does exist that isolated lenses of the contaminated soil may extend to the east of this parcel.

Estimated cleanup costs for this site were figured as follows:

Engineering estimates figured 6,000 m3 (7,800 yd3) of contaminated soils would be encountered. Using the $89.00 per m3 ($68.00 per yd3) disposal figure for this quantity, the total estimated cleanup cost for this site is $534,000. 3225 Lincoln Street - North Market Street Superfund Site

The following potentially liable parties (PLP) and affected properties are included in the North Market Street Superfund Site: Burlington Northern Railroad Company, Chevron Pipe Line Company, Clark & Son Landscaping, Discount Lumber, Draper Property, Fastmart, Pacific Petroleum & Supply, Phillips Petroleum Company, Schmidt Property, Tosco Refining Company, Tosco Drill Cuttings, Midget Oil Company, Western Fruit Express - Hillyard Station

See Figure 4-47 for approximate locations of property owned at the above potentially liable parties.

The North Option passes east of the PLPs involved in the North Market Street Superfund Site. The option then moves to the northwest over known limits of the contamination plume. The northern and western boundaries of the Superfund Site's contamination are unknown. A Phase 1 Remedial Investigations and Feasibility Study (RI/FS) and Phase II Scope of Work for the North Market Site have been prepared by Dalton, Olmstead and Fuglevand to determine the northwestern extent of the contamination plume.

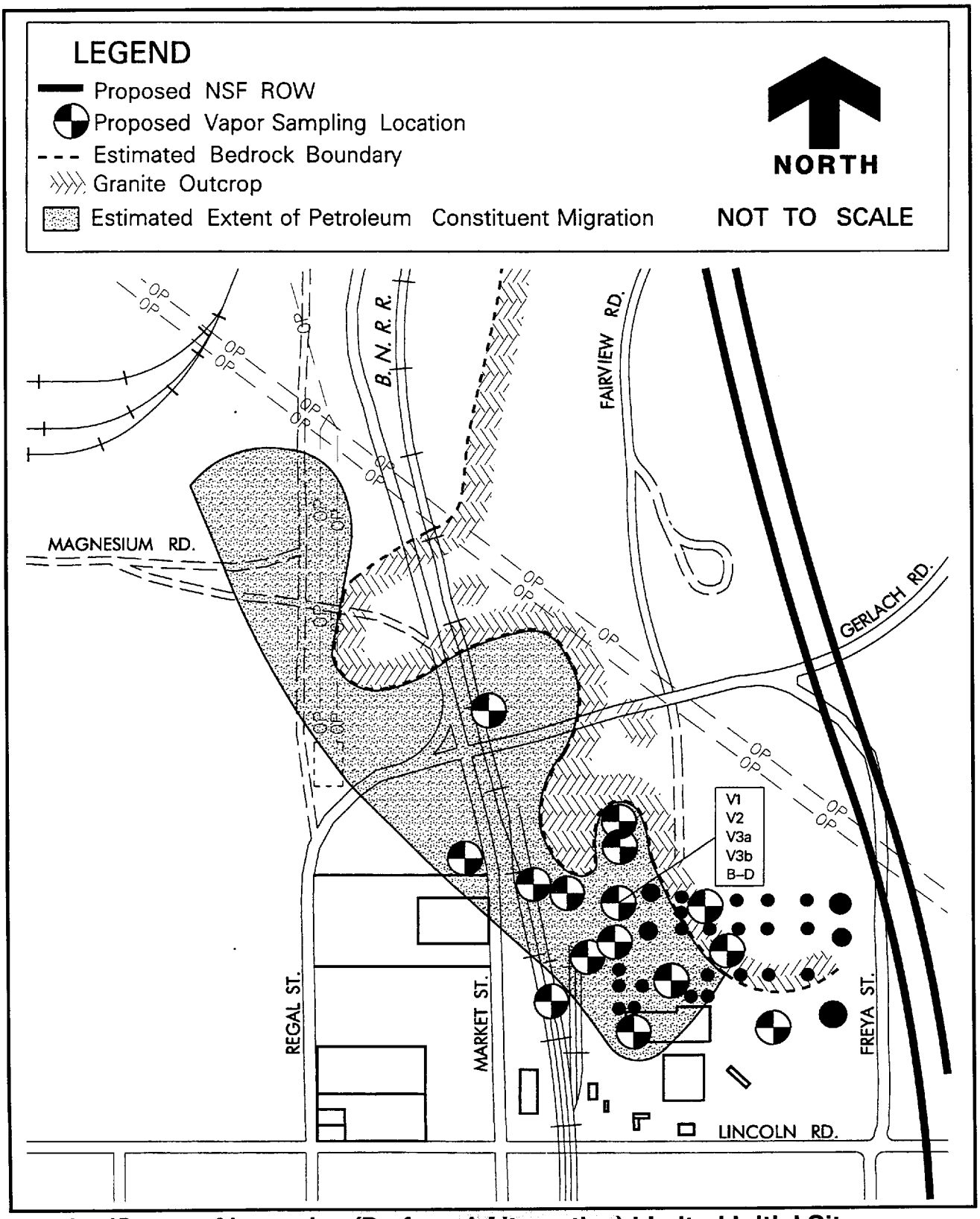
The C&SCS list indicates confirmed contamination, including; halogenated organic compounds, petroleum products, non-halogenated solvents, poly-nuclear aromatic hydrocarbons, and base/neutral organics in the soil.

The properties considered part of the site were developed as industrial or commercial facilities involved in, or related to, the refinement, sale, and recycling of petroleum products. In the late 1930s, properties surrounding the modern Tosco Spokane Terminal petroleum tank farm and distribution center were developed as part of an oil refinery complex. By the late 1940s, the Phillips refinery complex had an estimated daily output of approximately (1,431,000 liters (314,832 gallons)) of refined petroleum products. Waste management practices common during that era resulted in excessive releases of refinery-related petroleum wastes into the environment. Figure 4-47 depicts "oil sumps" to the North and northwest of the modern facility. The oil sumps were excavated pits in surface soil that waste petroleum products were released into. At some point the oil sumps were incorporated with, and covered by, native soil.

As early as 1978, local landowners and businesses north of the present day tank farm had encountered petroleum laden soils. In 1984, state officials

confirmed the presence of petroleum in ground water samples collected from three private supply wells in the area.

In 1990, the EPA listed the North Market Street Site on the federal Super-fund National Priority List (NPL) of hazardous waste sites requiring clean-up. Once the



Market/Greene Alternative (Preferred Alternative) Limited Initial Site Assessment North Market Superfund Site
Figure 4-47

site was listed, under a Memorandum of Agreement between Ecology and the EPA, Ecology assumed the lead to direct cleanup of the site under the authority of the States hazardous waste cleanup law (MTCA-Chapter 70. 105D RCW).

In January of 1992, four companies (BNR, Chevron, Phillips, and Tosco) voluntarily requested discussions with Ecology to perform a RI/FS at the site. As

stated, the result was a Phase I Remedial Investigation Report for the North Market Street Site prepared by Dalton, Olmsted & Fuglevand, Inc., January 1994.

I Dalton, Olmsted & Fuglevand, Inc. also proposed a Phase ll Scope of Work in conjunction with the North Market Street Superfund Site Remedial Investigation/Feasibility Study (RI/FS) and Phase l Investigative report to determine the northern limits of the contamination plume, and whether a product head exists. If it does exist, work may begin to treat the head. Additional intrusive investigations, outlined in the Scope of Work, will include the installation of 5 to 9 monitoring wells northwest of the site. Figure 4-48 reveals the suspected contamination plume boundaries and the proposed locations of additional wells.

BNR, one of the PLPs in the North Market Street Superfund Site, has entered into a proposed De Minimus Cleanup Consent Decree with the WDOE. This legal agreement proposes removal of PCS in the BNR Right of Way and settlement with WDOE.

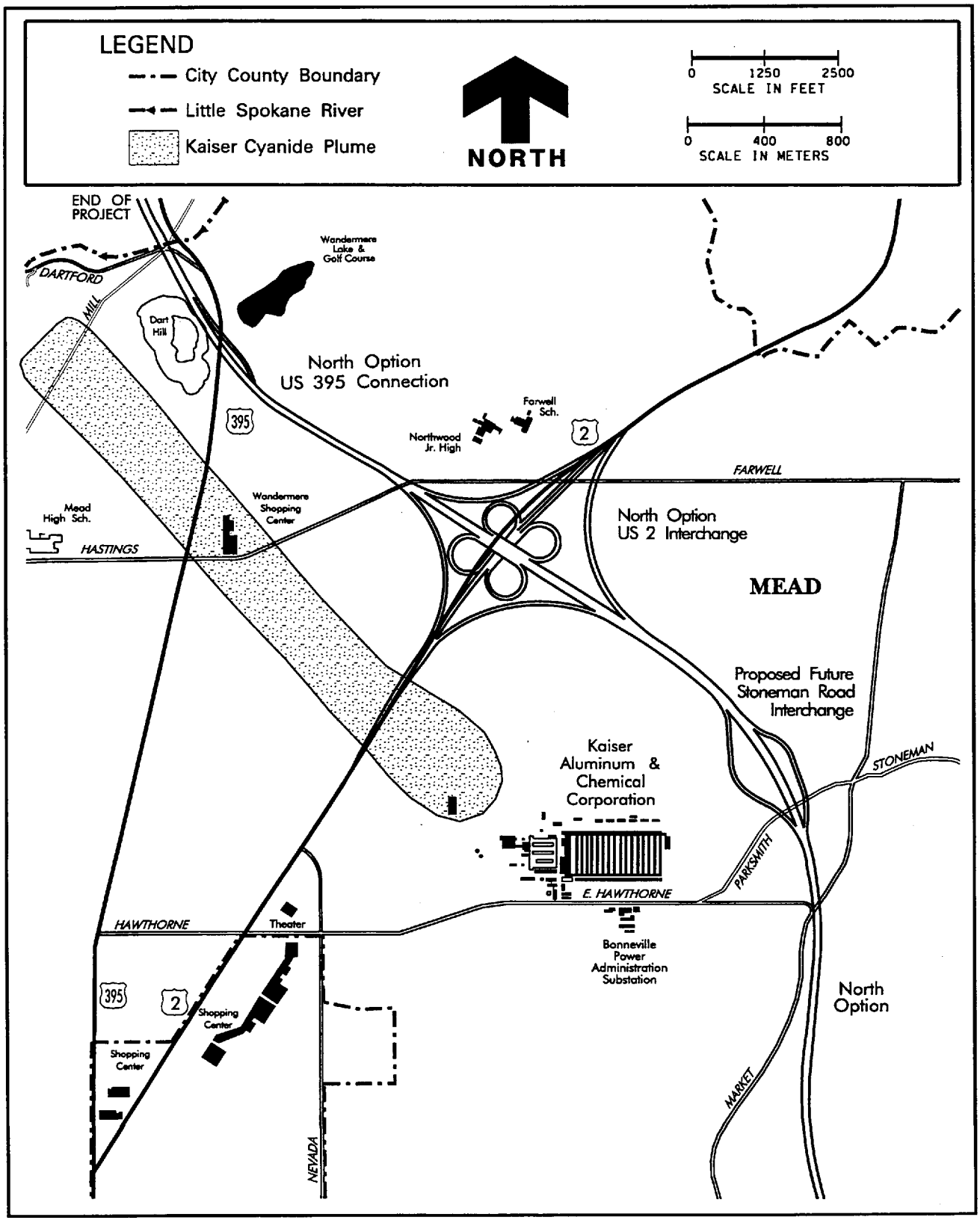
COMMENTS & CONCLUSIONS:

The proposed right-of-way take associated with this property just touches the northeast corner of the North Market Street Site. The property take will be for the re-alignment of Freya Street (See Appendices D pg. D-11). As shown on the following site map, the well studied and documented North Market Street Site does not show contamination on this portion of the property; however, in a recent drive-through, it appeared that 'soil farming' was taking place on this portion of the property. If cleanup is necessary on this property, it should be very minimal.

Kaiser Cyanide Plume - East Hawthorn Road - Kaiser Aluminum Mead Works

The Kaiser Aluminum Cyanide Plume has affected the Spokane Aquifer around the aluminum facility and in a north and northwesterly direction, flowing away from the plant to the Little Spokane River. The Cyanide Plume is to the west of the North Option; therefore. construction is not likely to encounter the contamination associated with it (see Figure 4-48). Groundwater mounding will need to be modeled to determine whether stormwater, when concentrated into filtration areas, will affect the flow patterns of the Plume. Mounding from stormwater may divert the Cyanide Plume and contaminate additional public water supplies.

Numerous investigative environmental documents have been prepared for the Kaiser Aluminum Plume. Technical review of these documents will be required. Contingent on the results of stormwater modeling, stormwater may be introduced to the local soils for filtration or will need to be conveyed off-site to other retention sites.



Market/Greene Alternative (Preferred Alternative) Kaiser Cyanide Plume
Figure 4-48

COMMENTS & CONCLUSIONS:

The proposed alignment of the North Alternative is to the north of, and parallel to, the Kaiser Cyanide Plume. The plume does not affect the route.

Property Acquisition

Real estate issues become more complicated when contaminated or potentially contaminated property is involved. Policies and procedures for avoidance, indemnification, appraisals, and condemnation should be reviewed and prioritized before starting the acquisition process. When construction is completed, a number of properties may be sold as excess. These will need to meet commercial standards for previously contaminated property.

No-Build Alternative

Roadway transportation of hazardous materials is presently by way of existing north-south stop and go arterials such as Division Street and Market/Greene Street. These routes pass through commercial and residential areas. With increased growth in the region, these arterials will become increasingly crowded. Threats to human health from transporting hazardous materials through commercial and residential areas will continue to increase.

"Build" Alternatives

The proposed North Spokane Freeway will link with the Interstate transportation system and I-90, and is expected to carry a full range of motor freight cargo. Vehicles carrying a variety of hazardous substances that could explode, cause harmful air emissions, or contaminate soil, surface water, and/or and ground water can be expected to decrease use of city arterials and opt for the statistically safer limited access route.

Mitigation (post construction)

Federal, state, and local government agencies have developed contingency plans in the event of an accidental release or spill of hazardous materials.

•The city of Spokane Fire Department Hazardous Materials Response Team (HMRT) would respond to releases or potential releases of hazardous materials on the proposed alternatives. The HMRT will coordinate with the WSP, Ecology Spills Response Team, and WSDOT Incident Response Team on releases and remediation.

• WSDOT will follow its Best Management Practices and Hazardous Waste Contingency Plan (Instruction No. 85-48 Hazardous Waste Program) for use of hazardous substances during maintenance operations.